



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,619	10/22/2003	Shinnen Kobata	2003_1519	4810

513 7590 01/27/2006

WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

BLACKWELL RUDASI, GWENDOLYN A

ART UNIT PAPER NUMBER

1775

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Am

Office Action Summary	Application No. 10/689,619	Applicant(s) KOBATA ET AL	
	Examiner Gwendolyn Blackwell	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-61 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 29-61 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/088,919.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on November 8, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of USPN 6,673,456 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 29-32, 34, 40, and 43-50 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,830,568, Kondo.

Regarding claims 29-32, 34, 40, and 49-50

Kondo discloses a laminated glass having an interlayer with particles having a diameter ranging from 0.001 μm – 0.2 μm (2 – 200nm), (column 3, lines 10-19). The particles can be antimony doped tin oxide or tin doped indium oxide, (column 4, lines 13-55). Preferably, although not limited to, the interlayer is comprised of a polyvinyl butyral or an ethylene-vinyl acetate which can also contain a plasticizer, (column 3, lines 56-65), meeting the limitations of claims 34 and 53. Triethyleneglycol-di-2-ethylbutyrate (dispersant) containing ATO particles having a particle diameter up to 0.02 μm (20 nm) is mixed with polyvinyl butyral, (Example 2, column 9, lines 59-65), meeting the limitations of claims 29-31 and 49. The plasticizer can be phosphoric acid esters, polyether esters, and fatty acid esters, (column 7, lines 40-49), meeting

Art Unit: 1775

the limitations of claims 32 and 50-51. The particles can be present in an amount ranging from 0.5-5.0 wt% with the rest being binder, resin and optionally other additives. Solvents can be added to the interlayer mixture, (column 7, lines 5-54). A bond-adjusting agent can be added to the interlayer, (columns 3-4, lines 65-4), meeting the limitations of claims 40, 52, and 58.

Regarding claims 43-45 and 47-48

The laminated glass is made by placing an interlayer between two sheets of glass, (column 4, lines 4-12), meeting the limitations of claim 43. The sheet glass can have a thickness ranging from 2.0 mm to 2.5 mm with a visible light transmittance of at least 70% and a solar radiation up to 65%, (column 6, lines 2-55). The haze of the laminated glass can be extremely low at about 0.3%. The Δ dB of the electric field shield was not greater than 2 dB, (columns 8-9, Example 1), meeting the limitations of claims 44-45 and 47. Example 2 further demonstrates that the pummel value for an embodiment of the Kondo invention is between 3-4, (column 10, lines 40-60), meeting the limitations of claims 48.

Regarding claim 46

The glass used to make the glass sheets is green glass, (column 6, lines 44-45), meeting the limitations of claim 46.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1775

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 29, 34, 38, 41-42, 53, 56, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 4,020,217, Karasudani et al in view of United States Patent no. 5,830,568, Kondo.

Regarding claims 29, 34, 38, 41-42, 53, 56, and 60

Karasudani et al disclose a laminated glass with a plasticized polyvinyl acetyl resin treated with an alkali metal (potassium) or alkaline metal (magnesium) salt of an organic mono- or di-carboxylic acid. The organic acids are aliphatic monocarboxylic acids containing preferably up to 12 carbon atoms (dispersant) present in an amount ranging from 0.005 – 0.5 parts by weight, (column 7, lines 21-68). Karasudani et al do not specifically disclose that metal additives can be added to the interlayer.

Kondo discloses a laminated glass with an interlayer with particles having a diameter ranging from 0.001 μm – 0.2 μm , (column 3, lines 10-19). The particles can be antimony doped tin oxide or tin doped indium oxide, (column 4, lines 13-55). Preferably, although not limited to, the interlayer is comprised of a polyvinyl butyral or an ethylene-vinyl acetate that can also contain a plasticizer, (column 3, lines 56-65). In addition, a bond-adjusting agent can be added to the interlayer, (columns 3-4, lines 65-4). The particles can be present in an amount in a range

Art Unit: 1775

preferably from 0.5-5.0 wt% to with the rest being binder, resin and optionally other additives.

In addition solvents can be added to the interlayer mixture, (column 7, lines 5-54).

Karasudani et al and Kondo disclose interlayer films used in glass laminates. While Karasudani et al do not disclose that particles can be added to the interlayer film, a concern of Karasudani et al is to improve the penetration resistance of the laminate as well as maintaining high transparency, aging resistance, and weatherability, (column 2, lines 3-20). As Karasudani et al and Kondo can both use polyvinyl butyral for the interlayer material, it would have been obvious to one skilled in the art at the time of invention to modify the interlayer film of Karasudani et al with the particles of Kondo to create a glass laminate that exhibits extremely low haze, has improved bond strength, and improved penetration resistance, (Kondo, column 3, lines 1-11). Such a glass laminate leads to increased safety for drivers when the glass is used as an automotive glass laminate.

7. Claims 29, 35-39, 43, 54-57, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 6,387,516, Shichiri et al in view of United States Patent no. 5,830,568, Kondo.

Regarding claims 29, 35-39, 43, 54-57, and 61

Shichiri et al disclose an interlayer for laminated glass and a laminated glass containing the aforementioned interlayer, wherein the interlayer is comprised of a plasticized poly vinyl acetyl resin and a dispersant such as acetylacetone (chelating agent), sulfonic acid (sulfur compound), phosphoric acids (phosphate compound), 2-ethylbutyric acid/2-ethylhexylic acid (carboxyl group at its terminal position), (columns 9-10, lines 31-68); and a carboxyl modified silicon oils, (column 16, lines 36-50). Shichiri et al do not specifically disclose the inclusion of metal oxide particles.

Kondo discloses a laminated glass with an interlayer with metal oxide particles having a diameter ranging from 0.001 μm – 0.2 μm , (column 3, lines 10-19). The particles can be antimony doped tin oxide or tin doped indium oxide, (column 4, lines 13-55). Preferably, although not limited to, the interlayer is comprised of a polyvinyl butyral or an ethylene-vinyl acetate that can also contain a plasticizer, (column 3, lines 56-65). In addition, a bond-adjusting agent can be added to the interlayer, (columns 3-4, lines 65-4). The particles can be present in an amount in a range preferably from 0.5-5.0 wt% to with the rest being binder, resin and optionally other additives. In addition solvents can be added to the interlayer mixture, (column 7, lines 5-54).

Shichiri et al and Kondo disclose interlayer films used in glass laminates. While Shichiri et al do not disclose that particles can be added to the interlayer film, a concern of Shichiri et al is to improve the penetration resistance of the laminate as well as maintaining high transparency, aging resistance, and weatherability, (column 4, lines 54-63). As Shichiri et al and Kondo can both use polyvinyl resins for the interlayer material, it would have been obvious to one skilled in the art at the time of invention to modify the interlayer film of Shichiri et al with the particles of Kondo to create a glass laminate that exhibits extremely low haze, has improved bond strength, and improved penetration resistance, (Kondo, column 3, lines 1-11).

Response to Arguments

8. Applicant's arguments filed November 8, 2005 have been fully considered but they are not persuasive.

9. Applicant contends that Kondo et al and Karasudani et al do not disclose an interlayer film utilizing a dispersant as now set forth in new claim 29. Applicant further contends that the

Art Unit: 1775

mono- or di-carboxylic acid set forth in Karasudani et al in is not an alkali metal salt or an alkaline earth metal salt.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., carboxylic acid is an alkali metal salt or an alkaline earth metal salt) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). to 0.0

10. Applicant finally contends that Kondo et al also does not disclose dispersing agents.

This is not persuasive as Kondo specifically disclose triethyleneglycol-di-2-ethylbutyrate (dispersant) containing ATO particles having a particle diameter up to 2 μm (20 nm) which is mixed with polyvinyl butyral, (Example 2, column 9, lines 59-65).

11. As the prior art of record teaches the dispersant as claimed, the rejections stand.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 1775

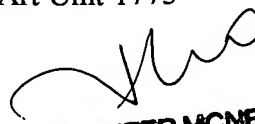
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gwendolyn Blackwell
Examiner
Art Unit 1775



JENNIFER MCNEIL
PRIMARY EXAMINER
1/23/06